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ABSTRACT

An examination of the use of metaphors by children summarizes the views of metaphor as found in the literature and describes a theoretical framework for the study of such utterances in young children by integrating two hypotheses. It is postulated that the young child uses metaphor to test new inferences about various kinds of relationships in the world in terms of the response obtained from the listener. This viewpoint brings together the Piagetian and Speech Act hypotheses, and makes it possible to ask more specific questions about metaphor production by children, dependent on the further development of some existing investigating procedures and criteria. It is proposed that this approach takes the phenomenon of child metaphor out of the category of description where it has been located until now. The report also includes a substantial list of references. (MSE)

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THE PRODUCTION OF METAPHOR IN YOUNG CHILDREN.

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1. INTRODUCTION.

For a long time, I have been haunted by the intuitive but unsubstantiated idea that metaphor represents the basic mechanism in terms of which meanings in the world are created and interrelated. I first explored this theme in a public lecture I gave last year (Sharratt, 1983), but the nature of that lecture was such that it was possible to avoid in-depth complexities engendered by the idea. My thesis in that lecture was that the logico-rational model of cognitive functioning adopted by cognitive psychologists was a restrictive and frequently misleading one, and that everyday cognitive acts such as perceptual recognition, remembering, and initiation of action, as well as imagination, joking, dreaming and metaphorical utterance were more coherently and consistently conceptualised in terms of a creative model. I also postulated that metaphor was in some sense intrinsic and basic to all creative cognitive functioning. What I have to say today represents parts of my attempt to explore these ideas more rigorously in the context of developmental theory.

I limit my discussion to the production (as opposed to comprehension) of metaphor by pre-school children[1]. It is in this area that some of the most insistent questions about the role of metaphor in the establishment of a meaning structure arise. If metaphor usage has more than a decorative and elaborative function in language and cognition, then it is in early development that this must be most apparent, for there it is extremely unlikely to serve such functions.

Many people would, of course, query whether metaphoric utterance, properly defined, ever occurs in young children, and would argue that

metaphor -like utterances are most likely to represent over-extensions and incorrect usage of language[2] (cf. Anglin, 1977; Matter & Davis, 1975; Clark, 1973; Chukovsky, 1968). They might also raise the problem that if metaphoric use is to be attributed to young children, intentionality must be established (cf. Billow, 1981; Gardner, Bechhofer et al., 1980; Greenfield, 1980; Winner, 1979), and that this poses insuperable problems in the study of pre-operative children. These are indeed issues which have to be addressed, but I begin with a working assumption that some forms of metaphoric utterance are indeed made by young children, and that they appear as early as the onset of language acquisition (Billow, 1981; Pollio & Pickens, 1980; Winner, McCarthy & Gardner, 1980; Winner, 1979; Gardner, Winner, Bechhofer & Wolf, 1978; Gardner, Kircher, Winner & Perkins, 1975; Gardner, 1973; Carlson & Anisfeld, 1969).

Interest in psychological processes in the use and comprehension of metaphor has been steadily growing in the last ten years, although prior to that it was a phenomenon that was largely the province of linguists and philosophers, but ignored by psychologists (Honeck & Hoffman, 1980; Billow, 1977). Within this work, there is a body of studies relating to developmental aspects of metaphoric production and comprehension. Some of this work is described by Ortony, Reynolds and Arter (1978) in a general review of theoretical and empirical research on metaphor. They make the point that particularly in the developmental research, there are serious problems relating to inadequate underlying theories about the nature of metaphor and, in the empirical research, inadequate controls over pre-existing knowledge, amongst other things. They tend to limit their discussion to the comprehension of metaphor, rather than its production. Had they given more consideration to

the latter, they might also have been able to comment on its overly descriptive treatment, and on the absence of developmental theoretical frameworks in which the data acquired might be embedded. Although more recent work on metaphoric utterances in young children has attempted to remedy some of these deficiences, it is still the case that theoretical proposals about the role of metaphor use in development are extremely limited.

I have tried, therefore, to produce a theoretical framework for the study of metaphoric utterances by young children: this has taken the form of identifying certain reference frames from different domains which seemed to me to have prime relevance to the phenomenon[3], and of attempting their integration in two inter-linked hypotheses. I have also briefly addressed the problems of over-extension and intentionality.

2. DEFINITIONS AND THEORIES OF METAPHOR.

It is easy to recognise a metaphor, but less easy to define it, and even less easy to develop an adequate understanding of what metaphor is. It becomes even more difficult when one realises how widely metaphors may vary in form[4]. I will attempt, not a review of approaches to metaphor here but, instead, a summary of views relevant to the theoretical position I have adopted in this paper.

The standard dictionary definition of metaphor is that it is a word or phrase applied to an object or concept that it does not

literally denote in order to suggest comparison with another object or concept. However, Ortony (1980) points out that this definition is not adequate for the purposes of psychologists. Winner (1979, p.471-2) offers a more acceptable definition, in two parts:

(1) Metaphor refers to a figure of speech in which a word, phrase, sentence, or even larger segment of language is transported from its customary context to a novel domain;

(2) the extension of meaning is deliberate, and it occurs across previously established category boundaries. It can be seen that this definition includes the notion of intentionality as a criterion for distinguishing between metaphoric extensions and mistakes, as well as providing a basis for excluding extensions which are literal generalisations of a meaning[5].

Winner's definition of metaphor contains the tacit assumption that literal and figurative language are different in kind - an assumption that is contentious. It also suggests that both linguistic and cognitive aspects are involved in a metaphoric utterance. Not only are new word linkages being established, but conceptual categories are also being adjusted. It is therefore necessary to consider the nature of metaphor more fully, for these issues must be addressed in a psychological study. A theoretical framework for metaphor which has, not linguistic, but psychological relevance, is required. Aristotle's account of metaphor, to be found in the Poetics and in the Rhetoric, is an example of a theory whose relevance is primarily linguistic. It presents metaphor as an implicit comparison based on principles of analogy, a view that translates into what is today called the comparison theory of metaphor. According to this view, metaphors are infrequent and are

used for stylistic purposes to beautify language. A related theory is the substitution theory, which holds that a metaphorical expression is used in place of some equivalent literal expression. Both of these theories make a clear distinction between literal and figurative uses of language, and are more concerned with linguistic equivalences than with the psychological processes involved. Black (1962) in a philosophical paper which has much influenced psychologists, discarded both these theories in favour of an interactionist account of metaphor which has greater relevance to psychological function, and provides a basis for its empirical examination. The interactionist theory states that the major components of the metaphor (see note 4) interact to produce a new meaning that transcends the meaning of both[6]. The metaphor represents a distinctive intellectual operation in its use of a "subsidiary subject" to foster insight into a "principle subject", and demands a simultaneous awareness of both subjects which is not reducible, according to Black, to any comparison between the two. In other words, a metaphor creates a similarity, rather than formulates some similarity antecedently existing.

More recently Black (1979) has extended his analysis of metaphor and now proposes, in addition, that metaphors are only to be recognised as such by users of the language in particular contexts, that there is therefore no infallible criterion for defining an utterance as a metaphor. This places the study of metaphors firmly within the study of speech acts, and the contexts in which they occur.

Black's view of metaphor has the effect of reducing differences between literal and figurative language and in this respect finds parallels

in the views of linguists such as Campbell (1975), and of psychologists such as Paivio (1979), Miller (1979) and Rumelhart (1979), amongst others. All of these can be said to subscribe to a constructivist view of language, in terms of which meaning has to be constructed, rather than merely "read off". Such an approach inevitably breaks down the distinction between literal and figurative uses of language, and views the use of all language as essentially creative and relative (in terms of the context, the user and the hearer). Metaphors and other figures of speech may sometimes require a little more creativity than literal language, but the difference is quantitative, not qualitative (Ortony, 1979). Nonconstructivists, on the other hand, conceive of metaphors as unimportant, deviant and parasitic on "normal usage", and of their explanation as being in terms of violations of linguistic rules. Such a position tends to be more representative of syntactic and linguistic approaches to language. Ortony (1979) points out, in his introduction to the recent collection of papers entitled Metaphor and Thought, that the majority of views represented are at the constructivist end of the continuum of opinion just defined, and it is the position I shall favour in the rest of this paper.

In abandoning a formalist or non-constructivist approach to metaphor, and the cognitive processes underlying it, one also abandons the positivistic idea that structure can be discerned and defined in publicly available ways, independently of the observer, and that the natural world can be classified in terms of overt physical properties. This makes possible an additional theoretical advantage: the linking of the way we perceive resemblances both in the comprehension and

production of analogic language and in the direct perception of shared structure and, as a result, the development of an interactive and perspectivist view of meaning that permits forms of perceiving and using language to be conceived as continuous (cf. Verbrugge, 1977). A number of theorists have emphasised that the origin of metaphoric thinking lies in the nature of perception itself, in abstractive seeing (Paivio, 1979; Arnheim, 1969, 1966; Werner & Kaplan, 1963; Asch, 1958; Brown, 1958; Osgood, 1953; Langer, 1948). Such a position is clearly relevant to the study of the development of metaphoric competence in children.

3. THE FORMS OF METAPHOR PRODUCED BY YOUNG CHILDREN.

It would be expected that the forms of metaphoric utterance to be found in young children would be of the simplest varieties and more restricted in range than in mature individuals. A brief review of studies which provide a description of metaphoric productions in children follows.

(It should be noted that although efforts at establishing intentionality and ruling out the possibility of over extension of semantic categories have been made in most of these studies, these efforts cannot always be regarded as logically sufficient for the purpose. Therefore, some people might argue that the proven validity of metaphoric utterance by children is still an open question. The problem of establishing intentionality will be taken up in Section 4.)

Most of the empirical studies of metaphor production in children have been experimental in form (Pollio & Pickens, 1980; Kogan, Connor, Gross & Fava, 1980; Gardner, Kicher, Winner & Perkins, 1975; Pollio & Pollio, 1974; Gardner, 1974), and only a few quite recent studies have looked at the spontaneous production of metaphor (Billow, 1981; Winner, McCarthy & Gardner, 1980; Winner, 1979). Experimental studies have provided tasks such as giving children words or pictorial stimuli to apply to metaphoric situations: for example, a child might be asked to provide an ending which she found pleasing and adequate, to an incomplete vignette which invited a concluding simile. Some of these studies suggest a U-shape curve for the incidence of metaphoric production with age: pre-school children and adolescents have a higher rate of production than children in the middle age range. They also show that the metaphoric productions of pre-schoolers tend to be based, in whole or in part, on perceptual or sensory commonalities and are mostly unidimensional; moreover, they mainly take the form of re-naming objects, which is one of the basic and simplest forms of metaphor. The productions of adolescents, however, show a more mature metaphoric competence: similarities are not only perceptually-based, but comparisons are often based on psychological attributes; they are multidimensional, and assume various syntactic forms. Cometa and Eson (1978) have provided evidence linking such metaphoric capacities to Piagetian-defined stages of cognitive growth.

The reasons for the drop in metaphoric production in middle childhood is not clear, though Gardner, Winner, Bechhofer and Wolf (1978) speculate that it is also related to the kinds of cognitive complexities that are being established in development, conceptualised in a Piagetian framework[7].

The studies of spontaneous metaphor production reported by Winner (1979) and Billow (1981) elaborate on the nature of metaphors produced by pre-operational children. Winner's study is notable as the single in-depth analysis of the productions of a single child between the ages of two and five years. Billow, on the other hand, studied a large number of children between the ages of two and six years for periods of ½-1 hours each. Each of these researchers made serious attempts to deal with the problems of over-extension and intentionality (see Section 4). Winner classified the metaphors observed in her subject into pretend and non-pretend action metaphors and non-action (largely perceptually-based) metaphors. Overall, non-action metaphors were the most frequent, but the earliest metaphors were predominantly pretend-action metaphors growing out of symbolic play. These diminished steeply in frequency with age, while the non-action (perceptually-based) metaphors increased at a comparable rate with age. An additional point of interest is that over-extensions were much less frequent than metaphors, an observation which is comparable to one made by Rescorla (1980) in a study of over-extension in the early development of language (see Section 4).

Billow's study showed that the early metaphors he observed tended to be food-based, whereas older children used role-based metaphors more frequently. These results may well have been dependent on the particular play context of the study. His study also showed the decline in incidence of production with age found in some experimental studies. In examining the grounds of the metaphors produced in the study, Billow found, as did Winner, they were predominantly based on actions, or on perceptual similarities.

In general, these experimental and observational studies provide a descriptive picture of early metaphoric productions as simpler in linguistic structure, and as more predominantly perception- and action-based than is the case in adult productions. The question remains to be asked: what functions do they serve in development? This question will be addressed in the last section (Section 5).

4. THE ESTABLISHMENT OF INTENTIONALITY IN THE STUDY OF CHILD METAPHOR.

The argument that it is only possible to infer that a child's utterance is metaphoric if intention and the deliberate crossing of previously established conceptual and/or linguistic boundaries can be established, was previously mentioned. Several theorists have made efforts in the direction of proposing criteria for establishing that the child's utterance was intentional.

Winner's (1979) set of operational criteria were based on knowledge about the child's prior usage of words and familiarity with objects relating to the utterance in question, or on the child's being able to provide the literal names of these objects prior to, or just after, the utterance[8]. Winner also proposed ways of using the same kind of information to decide whether an utterance should be classified as an anomaly or as an over-extension of semantic categories[9].

Billow (1981) proposed a criterion for attributing intentionality similar to that of Winner (1979); it was based on the child's being

able to produce the literal name of the re-named object either spontaneously, or in response to questioning. He also added a further criterion which, if fulfilled, produced stronger evidence of metaphoric utterance: being able to state a ground of comparison.

Both Winner's and Billow's criteria depend, for their proper use, on the ability to specify the range of conventional uses for words which a child has already established, and this includes a knowledge of over-extended and under-extended forms of use currently in the child's vocabulary. This is a difficult condition to fulfil, and demands lengthy longitudinal studies of individual children[10].

Strictly speaking, neither of the sets of criteria adopted by Winner (1979) or Billow (1981) are logically sufficient for accepting intentionality in the context of communicative acts, which seems to be the most appropriate framework for conceptualising the metaphoric utterances of a child. A recent paper by Greenfield (1980) analyses the logical requirements for inferring that a child intends a specific utterance: if directedness (D) and termination (T) in the presence of a goal (G), (G → T), are established, an intention can be inferred. To establish D and (G → T) in communicative acts, observation and micro-analysis of the interactive behaviour of the pairs of speakers is required; Greenfield discusses various operational criteria for establishing that the necessary events have occurred. Applying this analysis to the study of child metaphor production, it would seem that not only are Winner's criteria necessary, but that in addition, the child's and the caretaker's utterances must be studied in an interactive speech act framework to permit the logical requirements for

intentionality formulated by Greenfield to be tested.

It can be seen that fulfilling these criteria must pose very great problems. Winner, McCarthy and Gardner (1980) point out that final proof of metaphoric utterance in young children requires not only an impeccable definition and operationalization of metaphor, but also knowledge of the speaker's intention and unambiguous evidence of the child's goals, and they comment that such demanding criteria may well overwhelm the researchers' meagre tools. They say that perhaps the most that can be hoped for is a marshalling of lines of conveying evidence for the probable occurrence of early metaphoric production.

However, I would like to propose that it <u>is</u> possible to adopt a radical alternative to this position, the necessity of which only follows, I think, from adopting a view of language which sharply distinguishes between literal and figurative language usage. If, instead, the view of language proposed in Section 2 is adopted, namely, that literal and figurative language are indistinguishable because they employ the same psychological processes, then the necessity of proving that an utterance is metaphorical drops away, and the issue of intention is no longer an issue. Instead, the question to be addressed becomes how metaphors, as exemplars of all new linguistic and conceptual formations, function to promote development and the growth of meaning.

5. SOME HYPOTHESES ABOUT THE ROLE OF CHILDREN'S METAPHORIC PRODUCTIONS IN DEVELOPMENT.

In Section 2, the question, "What is a metaphor?" was considered. Now, as indicated above, we must ask, "What is a metaphor for?", or, more precisely, "What function does metaphoric utterance serve in development?"

The choice of topics I have discussed in previous sections of this paper provides clues to the view of child metaphoric utterance which I have formed. However, I will shortly formalise this in stating two hypotheses about the functions of metaphor production in linguistic and conceptual development. Before I do so, I will sketch the reference frames I have employed.

In formulating my hypotheses, I have drawn on ideas from several bodies of theoretical work. Piagetian theory (Piaget, 1962, 1955, 1953) constrains my overall conception of how a child develops cognitively by means of activity in the world. However, I am unhappy about the heavy emphasis on rationality made by the theory, which sees the end-point of development as the construction of sets of logical relations describing the world and the structure of the individual's actions in the world. This is not a position which I see as capable of dealing with what is variously called the problem of multiple realities (Bolton, 1982), other "realities" (Shotter, 1982) or multiple identities (Verbrugge, 1980) - the problem of explaining the ability of humans to use different, overlapping and even conflicting perspectives in thinking about the world. I am also unhappy about the mainly supportive roles which Piaget assigned to perception and language in conceptual development,

and therefore I have had recourse to theoretical work which emphasises the unity of the psychological processes underlying perception, language and thinking, especially in the areas of categorization and concept formation, and of meaning acquisition (Bolton, 1982; Harnad, 1982; Tomikawa & Dodd, 1980; Anglin, 1977; Rosch, 1977, 1973; Verbrugge, 1977; Verbrugge & McCarrell, 1977; Rosch, Mervis, Gray, Johnson & Boyes-Braem, 1976; Nelson, 1974; Clark, 1973). I have been influenced also by speech act theory (Searle, 1969), by the conceptualisation of language acquisition as a function of the communicative interactions of a child and its caretaker, and especially by the suggestion of Snyder-McLean and McLean (1978) that the normally developing child is an active participant in the language acquisition process and uses information-gathering and -processing strategies within the speaker-hearer partnership.

I can now state my hypotheses about the functions of metaphoric utterances in early cognitive development:

1. Metaphor production is a means whereby newly constructed hypotheses about similarities between psychological entities are tested in the context of communicative acts.

2. The similarities which the metaphor serves to mark, relate to a system of conceptual categories which are flexible, shifting, and not bounded in a logical sense.

The remainder of what I have to say will flesh out these hypotheses. Piaget studied the role of symbolic play and imitation in the conceptual

development of the pre-operational child (Piaget, 1962) and argued that it is by means of these early forms of symbolic representation (the first of which is mainly assimilatory, and the second, mainly accommodatory) that the relations between the child's own activity and things in the world are brought into the equilibrium characterising operational thinking. Both symbolic play and imitation involve symbolic representations which are based on sensori-motor activity: in symbolic play, the child uses an object as a symbol for her imaginative constructions; in imitation, the child uses actions of her own body to recreate, and in this way to "understand", actions of other persons or things she has previously perceived. When equilibrium is achieved, it is on the basis of the integration, via active testing of the world in play and imitation, of the cognitive results of these activities. Although the emergence of symbolic play and imitation coincide with the onset of language, verbal representations of the world are assigned only a supportive role in conceptual development. Piaget viewed language as consisting of signs (words) which had universal meanings within the social group; thus it could be inferred that language was a useful way of labelling or "signing" cognitive universals.

The emphasis Piaget gave to the role of action in the construction of intelligence, his secondary interest in language as a conceptual tool, his assumption of the validity of the idea of cognitive universals, has to do with the nature of the developmental problems he selected for investigation, and his preoccupation with formulating a genetic epistomology of logical thought (cf. Wolff, 1969). Piaget was not concerned with the development of meaning in the broader sense used in this paper, nor with the establishment of a system of flexible unbounded

conceptual categories which must underly each individual's momentary experience of objects and events in context. The establishment of such a system must, like the logical system with which Piaget was concerned, be grounded in the results of the child's activity in the world, but it must become increasingly shaped by the role language, and especially metaphor, plays in creating similarities and in catalyzing new meanings (cf. Verbrugge, 1980).

The child develops his understanding of the world through interaction with it, but even in childhood there are different ways of knowing the world (cf. Bolton, 1982; Harnad, 1980), and different ways of testing the cognitive constructions formed about it. One way is the way identified by Piaget - through activity; the other way is through the confirmation of a social agent via language (cf. Snyder-McLean & McLean, 1980).

Therefore, I can postulate that the young child uses metaphor as a communicative act, for the purpose of testing new inferences about relationships of varying kinds in the world in terms of the response she achieves from the other member of the communicating partnership. This postulation brings together the Piagetian and the Speech Act framework, and makes possible the articulation of a range of more specific questions about metaphor production by children, and for which some investigatory procedures and criteria are already available, although they will need extensive development and refinement. It therefore promises to take the subject of child metaphor production out of the realm of the purely descriptive in which it has been located until now.

NOTES

1. Gardner, Winner, Bechhofer and Wolf (1978) define comprehension and production of metaphoric utterances as follows: Included in comprehension are the skills required to paraphrase a metaphor, to match elements from disparate domains on a metaphoric basis, and to indicate the acceptability of metaphoric figures; included in production are the skills required to fashion figures of speech which, in the view of one's community, effect an acceptable link between two domains.

2. The concept of child metaphor as mistake is discussed in Pollio and Pickens (1980), who give the following examples of ways in which an apparently metaphoric utterance might be interpreted, in various ways, as a mistake (p.311):

> Occasionally a child may use a metaphor unintentionally when merely 'playing' with language. If, for example, a child says, "My truck died", when his toy truck rolls over and ceases to move in a forward direction, he could be unaware of the marking 'animate' for the word <u>died</u> and be making a semantic error. He could also not know all of the lexical items, and/or be incapable of using the syntax necessary in saying, "my truck has rolled over and is no longer moving in a forward direction", thereby making another, if different, mistake. Finally, he might just be 'joking' by saying his truck died and thus not understanding the figurative significance of his utterance.

3. My initial attempts at identifying relevant reference frames took me a merry dance through Lacan, Freud and Piaget: having been interested in the cognitive processes of condensation and displacement which Freud describes as the basic dream-work mechanisms (Freud, 1965), I became seduced by Lacan's proposal (Lemaire, 1977; Lacan, 1966) that condensation and displacement were paralleled by the cognitive processes underlying metaphor and metonymy: I then rashly tried to extend the parallels to encompass Piaget's concepts of accommodation and assimilation (Piaget, 1953 and 1955), and also other dichotomous concept pairs, such as generalisation/differentiation, divergence/convergence, etc. (Gibson & Gibson, 1955), in order to produce a developmental frame in which the concepts of metaphor and cognitive associative and reductive mechanisms might be neatly lodged. However, this attempt was doomed to failure: the concepts concerned resisted all efforts to get a neat line-up of parallel dichotomies; after abandoning this attempt, I became convinced that the whole exercise had been a good example of the over-reliance on the logico-rational system of thinking which demands the establishment of bounded and bivalent conceptual categories, but which is not likely to be of primary usefulness in initial attempts at opening out a problem area. Nevertheless, the exercise had two productive outcomes: it led me to consider Piaget's treatment of cognitive development in the pre-operational child (Piaget, 1962) and to discover its areas of promise and of lack; it also led me to consider definitions of metaphor; I came to the conclusion that the distinctions between metaphor and metonymy (and, indeed, other tropes such as simile and synecdoche), although possibly of linguistic usefulness

(however, Hawkes (1972) disagrees), probably have little psychological reality in terms of the comprehension processes which are implicated (cf. Miller, 1979; Paivio, 1979).

4. Relatively straightforward metaphors like "Richard is a lion" or "The poor are the negroes of Europe", exemplify the property that a metaphor has of comparing one thing to another in a non-literal, and relatively unexpected way. I.A. Richards (1936) devised names for the essential elements of a metaphor, namely the topic (or tenor), the vehicle and the ground. The topic refers to the subject of the metaphor, e.g. "Richard" and "The poor" in the examples above; the vehicle refers to the thing to which the topic is in some way compared, or with which it is identified - in the examples, "lion" and "the negroes of Europe" serve as vehicles; the ground of the metaphor is/are the property/properties which are common to the topic and vehicle - in the examples, the grounds are properties such as bravery and, in the second case, alienation, discrimination, neglect and oppression.

In many metaphors, however, only the topic or the vehicle is made explicit, and sometimes neither is explicitly mentioned. For example, in "Sheathe thy impatience", the unstated vehicle is "sword"; in "Don't put the cart before the horse", the topic is some unstated action; and in "Let us eat, drink and be merry, for tomorrow we die", there is neither explicitly stated topic nor

vehicle. These examples come from Perrine (1971), and are quoted by Ortony, Reynolds and Arter (1978).

Because a metaphor usually involves the interrelationship of selected multidimensional aspects of its components, rather than of two terms (topic and vehicle), some influential later writers no longer use Richards' terms. Black (1962, 1979) for example, has substituted 'focus' and 'frame', where the latter term refers to the new context for the focus created by the metaphor.

5. In operationalising this definition for the purposes of developmental study, it can be seen that it will be necessary to specify the range of conventional uses for words which a child has already established. This is because adult usage and child usage will diverge, and it is important not to employ standard adult usages as criteria for what constitutes a metaphoric utterance in a young child.

6. "Metaphors" that fit a substitution or comparison view are not really true metaphors at all, according to Black, because they can be literally paraphrased; this is not the case with interaction metaphors, which are not expendable from the language, because they contain unique cognitive content.

7. The pre-operational child is free to experiment with the use of language in the context of symbolic play and imitation; at this point, conceptual boundaries which are in the process of establishment are very flexible. When the child goes to school, in the early period of concrete operationality, it is important that she consolidates the concrete meanings of words, and establishes firm boundaries in relation to concepts; once this is achieved, there is further opportunity in adolescence to utilise the achievements of formal operationality in relation to more mature and creative use of metaphoric language.

8. Winner's criteria were as follows:

(a) The child must have shown that she possessed the literal name for the renamed object prior to the utterance in question, or be able to demonstrate that she did possess it, immediately afterwards, either spontaneously or in response to questioning; and/or (b) if the utterance took the form of the renaming of a familiar object while performing inappropriate pretend actions upon it, and if the new name was in accord with these actions, then a metaphoric utterance could be presumed, because of the familiarity with, and appropriate behaviour towards, the object on other occasions. In such a case, knowing the name of the object should be considered irrelevant - all that matters is that the child should know that the object is not what she is using it as. If neither (a) nor (b) could be met, then (c) should be

adopted: the weaker criterion that, through sheer probability, the child should know the literal name of the transformed object. The assessment of probability should be based on the judged familiarity of the renamed object, as well as on the judged familiarity of the name used, given the age of the child concerned. Although there is some problem in requirement (a) of a fixed prior usage of a word - young children's word usages are flexible, and not always consistent - these criteria appear to provide a reasonable first attempt at operationalising intention in the case of metaphoric utterance.

9. It is of interest, in this connection, to note that Rescorla (1980), in a diary study of over-extensions in early language development, not only showed that over-extensions are quite limited in number, but also that normal extension and over-extension are two aspects of the same basic process, which is one of categorization and concept formation. Over-extension, he claimed, is used in pre-syntactic attempts to convey relational meaning. If this is accepted, and also the theoretical view of metaphor sketched in Section 2, then it might make little sense to worry about the possible confusion of over-extensions and metaphors in child utterances.

10. Billow did not himself conduct a longitudinal study, and therefore might be criticized on the basis of the validity with which he applied his criterion. Nevertheless, it is likely that in practice, most of his assignments of utterances to the class "metaphor" would be considered appropriate.

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